

ABSTRACT OF THE DISCLOSURE

A method for fabricating a field emission structure is disclosed. A first dielectric layer and a second material layer are disposed over a substrate and at least one emitter tip thereon. Planarization of the second layer exposes regions of the first layer that cover the emitter tip, which regions may then be removed through the second layer. Substantial removal of the second layer reduces any conductive defects that protrude from a surface of the first layer. A third, dielectric layer and fourth, grid layer are then formed. Planarization of the fourth layer forms grid openings and exposes dielectric material of the third layer which overlies the emitter tip. Dielectric material of one or both underlying layers may then be removed to expose the outer surfaces of the emitter tip.

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